Zara 10/032,794

```
=> d que l2
L1            12 SEA FILE=REGISTRY G[UT]A[UT]A[UT][UT]ACC[UT]GG[UT].{8-25}G.{5-2
                 3}GAA....ACCAGAGAAACA/SQSN
L2             0 SEA FILE=HCAPLUS L1


=> d his 1

     (FILE 'MEDLINE, HCAPLUS, BIOSIS, EMBASE, WPIDS, SCISEARCH, AGRICOLA'
     ENTERED AT 13:04:32 ON 09 FEB 2004)
L17           24 DUP REM L16 (14 DUPLICATES REMOVED)

=> d que l17
L3          1659 SEA HAIRPIN#(3A) RIBOZYME#
L4           596 SEA (ALTER? OR CHANG? OR MODIF?)(5A)(STEM(3A) LOOP#)
L5             2 SEA L3 AND L4
L7          4467 SEA KOMATSU Y?/AU
L8          1836 SEA OHTSUKA E?/AU
L9          6144 SEA L7 OR L8
L10           79 SEA L9 AND L3
L11        17156 SEA (STEM(3A) LOOP#)
L12           19 SEA L10 AND L11
L13           19 SEA L5 OR L12
L15           21 SEA L3 AND OLIGONUCLEOTIDE# AND HYBRIDI?
L16           38 SEA L13 OR L15
L17           24 DUP REM L16 (14 DUPLICATES REMOVED)


=> d ibib abs l17 1-24

L17  ANSWER 1 OF 24  HCAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2002:511359  HCAPLUS
DOCUMENT NUMBER:          137:75225
TITLE:                    Hairpin ribozymes activatable by
                          oligonucleotide hybridization
                          causing stem loop conformation
                          change
INVENTOR(S):              Komatsu, Yasuo; Otsuka, Eiko
PATENT ASSIGNEE(S):       D.N.H. Chip Kenkyusho K. K., Japan; Hitachi Software
                          Engineering Co., Ltd.
SOURCE:                   Jpn. Kokai Tokkyo Koho, 23 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ---------------   ----  --------       ---------------   --------
     JP 2002191368      A2   20020709       JP 2000-399155    20001227
     US 2003045695      A1   20030306       US 2001-32794     20011227
PRIORITY APPLN. INFO.:                   JP 2000-399155   A  20001227
AB   Provided are novel hairpin ribozymes capable of
     activation by hybridization with oligonucleotide and
     resulting conformation change in the stem loop
     three-dimensional structure.  Also claimed are encoding DNA, and method
     and kit for detection of target sequences using the ribozymes.  Cleavage
     products are detected with fluorescent labeling or radioisotope labeling.
     Two hairpin ribozymes were prepared  Activation by
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Search completed by David Schreiber 308-4292

hybridization with two **oligonucleotides**, one 2-O-Me modified, was observed

L17 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:368985 HCAPLUS
DOCUMENT NUMBER: 136:374805
TITLE: Ribozymes targeting the retroviral packaging sequence expression constructs and recombinant retroviruses containing such constructs
INVENTOR(S): Symonds, Geoffrey P.; Sun, Lun-quan
PATENT ASSIGNEE(S): Australia
SOURCE: U.S. Pat. Appl. Publ., 49 pp., Cont.-in-part of U. S. Ser. No. 310,259.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002058636	A1	20020516	US 1995-375291	19950118
US 6114167	A	20000905	US 1994-310259	19940921
WO 9518854	A1	19950713	WO 1995-IB50	19950105
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2210618	AA	19960725	CA 1996-2210618	19960118
WO 9622368	A1	19960725	WO 1996-AU22	19960118
W: AU, CA, FI, JP, NO, NZ, RU, SG, US, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9644275	A1	19960807	AU 1996-44275	19960118
AU 703964	B2	19990401		
ZA 9600409	A	19960903	ZA 1996-409	19960118
EP 799309	A1	19971008	EP 1996-900475	19960118
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
JP 10513345	T2	19981222	JP 1996-521920	19960118

PRIORITY APPLN. INFO.:

US 1994-310259	A2	19940921
WO 1995-IB50	W	19950105
US 1994-178082	A2	19940105
US 1995-375291	A	19950118
WO 1996-AU22	W	19960118

OTHER SOURCE(S): MARPAT 136:374805

AB This invention is directed to a synthetic non-naturally occurring **oligonucleotide** compound which comprises nucleotides whose sequence defines a conserved catalytic region and nucleotides whose sequence is capable of **hybridizing** with a predetd. target sequence within a packaging sequence of an RNA virus. Preferably, the viral packaging sequence is a retrovirus packaging sequence or the HIV-1 Psi packaging sequence. The RNA virus may be HIV-1, Feline Leukemia Virus, Feline Immunodeficiency Virus or one of the viruses listed in Table 7. The conserved catalytic region may be derived from a hammerhead **ribozyme**, a **hairpin ribozyme**, a hepatitis delta ribozyme, an RNAase P ribozyme, a group I intron, a group II intron. The invention is also directed to multiple ribozymes, combinations of

ribozymes, with or without antisense, and combinations of ribozymes, with antisense, and TAR decoys, polyTARs and RRE decoys targeted against the RNA virus. Vectors are also described. Further, methods of treatment and methods of use both in vivo and ex vivo are described.

L17 ANSWER 3 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2003-093020 [08] WPIDS
DOC. NO. CPI: C2003-023267
TITLE: New catalytic nucleic acid molecule that specifically cleaves Hairless Protein mRNA, useful for inhibiting hair production by a hair-producing cell, or for inhibiting transition of a hair follicle from anagen phase to catagen phase.
DERWENT CLASS: B04 D16 D21
INVENTOR(S): CHRISTIANO, A M
PATENT ASSIGNEE(S): (CHRI-I) CHRISTIANO A M; (UYCO) UNIV COLUMBIA NEW YORK
COUNTRY COUNT: 100
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002083891	A2	20021024	(200308)*	EN	65

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

US 2003077614 A1 20030424 (200330)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002083891	A2	WO 2002-US11683	20020412
US 2003077614	A1 Provisional	US 2001-283618P	20010413
		US 2002-122013	20020412

PRIORITY APPLN. INFO: US 2001-283618P 20010413; US 2002-122013 20020412
AN 2003-093020 [08] WPIDS
AB WO 200283891 A UPAB: 20030204
NOVELTY - A new catalytic DNA or RNA molecule (I) that specifically cleaves Hairless Protein (HP) mRNA comprising:
(a) a catalytic domain that cleaves mRNA at a defined consensus sequence;
(b) a binding domain contiguous with the 5' end of the catalytic domain; and
(c) a binding domain contiguous with the 3' end of the catalytic domain.
DETAILED DESCRIPTION - A new catalytic DNA or RNA molecule (I) that specifically cleaves Hairless Protein (HP) mRNA comprising:
(a) a catalytic domain that cleaves mRNA at a defined consensus sequence;
(b) a binding domain contiguous with the 5' end of the catalytic domain; and
(c) a binding domain contiguous with the 3' end of the catalytic

domain. "

The binding domains are complementary to and **hybridize** with the two regions flanking the defined consensus sequence within the HP mRNA at which cleavage is desired, where each binding domain is at least 4 residues in length and both binding domains have a combined total length of at least 8 residues.

INDEPENDENT CLAIMS are also included for the following:

(1) a nucleic acid molecule (II) that specifically **hybridizes** to HP mRNA to inhibit the translation in a cell;

(2) a pharmaceutical composition (III) comprising (I) and a pharmaceutical carrier;

(3) specifically cleaving (M1) HP mRNA by contacting the mRNA with (I), or contacting a cell containing the mRNA with (I);

(4) specifically inhibiting (M2) the HP expression in a cell that would otherwise express HP by contacting the cell with (I);

(5) specifically inhibiting (M3) the HP expression in a subject's cells by administering to the subject (I) or (III);

(6) inhibiting (M4) hair production by a hair-producing cell by contacting the cell with (I);

(7) inhibiting (M5) hair growth in a subject by administering (III) to the subject;

(8) inhibiting (M6) the transition of a hair follicle from the anagen phase to the catagen phase by contacting the follicle with (I) or with (III);

(9) producing (M7) (I);

(10) a vector (IV) which comprises a sequence encoding (I);

(11) a host-vector system (V) comprising a cell comprising (IV);

(12) a pharmaceutical composition (VI) comprising the nucleic acid molecule produced by (M7) or (IV), and a pharmaceutical carrier; and

(13) a non-human transgenic mammal (VII), where the mammal's genome:

(a) has stably integrated therein a nucleotide sequence encoding a human HP operably linked to a promoter, where the nucleotide sequence is expressed; and

(b) lacks an expressible endogenous HP-encoding nucleic acid sequence.

ACTIVITY - Depilatory.

MECHANISM OF ACTION - HP inhibitor.

USE - The catalytic nucleic acid is useful for inhibiting hair production by a hair-producing cell, for inhibiting hair growth, and for inhibiting the transition of a hair follicle from the anagen phase to the catagen phase. The transgenic mammal is useful as a model for testing hair removal products which function by inhibiting HP expression.

Newborn C57B1/6J mice were treated with a deoxy-ribozyme formula twice a day starting on the first day after delivery. For each treatment, 2 micro g deoxy-ribozyme, dissolved in 85% EtOH and 15% ethylene glycol vehicle, were applied to a 1 cm2 area on the back. Control animals were treated with vehicle containing **oligonucleotides** of the same length but of random sequence. Mice were humanely euthanized after 28 days, 35 days, or 8 weeks of treatment. The entire treatment area, together with an equal sized non-treated neighboring area of skin, were removed, fixed in formalin, embedded and processed for pathology. After continuous treatment, by day 20, the hair of the treated animals became visibly sparse one the treated area. Pathology specimens taken from the treated area at day 28 showed a decreased number of hair follicles, several dense, basophilic cell groups in the dermis corresponding to dermal papillae by morphology and localization, and an absence of surrounding epithelial hair follicle tissues and related hair follicles. Samples taken from the treated area at day 35 shoed a different result. Some follicles in telogen phase could be observed, although they were more

sparse than in the surrounding untreated area or in the samples from the untreated control animals.
Dwg.0/4

L17 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:481283 HCAPLUS
DOCUMENT NUMBER: 137:165464
TITLE: In Vitro Selection of **Hairpin Ribozymes** Activated with Short Oligonucleotides
AUTHOR(S): **Komatsu, Yasuo**; Nobuoka, Kaoru; Karino-Abe, Naoko; Matsuda, Akira; **Ohtsuka, Eiko**
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo, 060-0812, Japan
SOURCE: Biochemistry (2002), 41(29), 9090-9098
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have carried out an in vitro selection to obtain an allosteric **hairpin ribozyme**, which has cleavage activity in the presence of an exogenous short oligonucleotide as a regulator. Random sequences were inserted in a region corresponding to the **hairpin** loop of the **ribozyme**. After 12 rounds of selection, DNA templates were cloned. Of a total of 34 clones, 18 contained the same sequence, and the obtained **hairpin ribozymes** showed the cleavage activity specifically in the presence of the regulator oligonucleotide. All of the clones contained sequences complementary to the regulator oligonucleotide. The ribozymes with high cleavage activities gained characteristic hairpin loops at the random domain, which were similar to each other. In the absence of the oligonucleotide, the loop domain within the allosteric ribozyme probably forms a slipped hairpin loop, and the complementary sequence, with the regulator oligonucleotide located at the single stranded loop, would allow easy access of the oligonucleotide. The binding of the regulator oligonucleotide triggers a structural change of the hairpin loop to form an active conformation. Furthermore, we constructed an allosteric hammerhead ribozyme by introducing the characteristic hairpin loop. The modified hammerhead ribozyme was also changed to an allosteric ribozyme, which was activated by the addition of the regulator oligonucleotide. The characteristic hairpin loop, which was proved to be regulated by an exogenous oligonucleotide in this report, may be used to control RNA functions in various fields.
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 5 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2001-258076 [26] WPIDS
DOC. NO. NON-CPI: N2001-184041
DOC. NO. CPI: C2001-077833
TITLE: New polynucleotide sequences upregulated in bladder cancer for diagnosing bladder cancer and inhibition of expression is useful for treating and regulating bladder cancer-associated pathologies.
DERWENT CLASS: B04 D16 P31
INVENTOR(S): FEINSTEIN, E; MOR, O
PATENT ASSIGNEE(S): (KOHN-I) KOHN K I; (QUAR-N) QUARK BIOTECH INC
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001022864	A2	20010405	(200126)*	EN	64

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001014926	A	20010430	(200142)		
EP 1248855	A2	20021016	(200276)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001022864	A2	WO 2000-US41005	20000927
AU 2001014926	A	AU 2001-14926	20000927
EP 1248855	A2	EP 2000-977267	20000927
		WO 2000-US41005	20000927

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001014926	A	Based on	WO 2001022864
EP 1248855	A2	Based on	WO 2001022864

PRIORITY APPLN. INFO: US 1999-156153P 19990927

AN 2001-258076 [26] WPIDS

AB WO 200122864 A UPAB: 20010515

NOVELTY - A polynucleotide sequence (I) which is upregulated in bladder cancer (BC) and whose expression is indicative of BC, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) diagnosing the presence of (BC) in a patient by analyzing for the presence of an expressed gene, where presence of the expressed gene is indicative of (BC)

(2) a marker for BC, where the marker is an expressed gene, whose presence is indicative of BC;

(3) antibodies (II) directed against the gene products of (I);

(4) treating BC-associated pathologies, by administering an antagonist of a protein encoded by (I) or its probes;

(5) regulating BC-associated pathologies in a patient, by administering antisense **oligonucleotides** or ribozymes against (I) or a dominant negative peptide directed against the sequences or proteins; and

(6) a gene therapy vehicle (III) for delivering (I).

ACTIVITY - Cytostatic. No biological data is given.

MECHANISM OF ACTION - Gene therapy.

USE - (I) is useful for diagnosing BC in a patient. An antagonist of a protein encoded by (I) or its probes is used to treat BC-associated pathologies. Antisense **oligonucleotides** or ribozymes against (I) or a dominant negative peptide directed against the sequences or proteins are used for regulating BC-associated pathologies in a patient (claimed).

Search completed by David Schreiber 308-4292

Dwg.0/0

L17 ANSWER 6 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2001-556486 [62] WPIDS
CROSS REFERENCE: 1990-092848 [13]; 1996-141022 [15]; 1996-299901 [30]; 1998-034973 [04]; 1999-105125 [09]; 1999-119896 [10]; 1999-142016 [12]; 1999-152791 [13]
DOC. NO. CPI: C2001-165416
TITLE: **Hairpin ribozymes** capable of cleaving an RNA substrate.
DERWENT CLASS: B04 D16
INVENTOR(S): HAMPEL, A E; HICKS, M F; TRITZ, R H
PATENT ASSIGNEE(S): (BIOT-N) BIOTECHNOLOGY RES & DEV CORP; (UYDE-N) UNIV DEKALB NORTHERN ILLINOIS
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6221661	B1	20010424	(200162)*		100

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6221661	B1	CIP of	US 1988-247100	19880920
		CIP of	US 1989-409666	19890920
		CIP of	US 1990-577658	19900904
		Cont of	US 1991-703427	19910514
		Cont of	US 1993-78774	19930617
			US 1995-476423	19950607

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 6221661	B1	Cont of	US 5866701

PRIORITY APPLN. INFO: US 1991-703427 19910514; US 1988-247100 19880920; US 1989-409666 19890920; US 1990-577658 19900904; US 1993-78774 19930617; US 1995-476423 19950607

AN 2001-556486 [62] WPIDS
CR 1990-092848 [13]; 1996-141022 [15]; 1996-299901 [30]; 1998-034973 [04]; 1999-105125 [09]; 1999-119896 [10]; 1999-142016 [12]; 1999-152791 [13]
AB US 6221661 B UPAB: 20011026
NOVELTY - A synthetic RNA catalyst (I) capable of cleaving an RNA substrate, the catalyst comprising a substrate binding portion and a ''hairpin'' portion.
DETAILED DESCRIPTION - A compound comprising the structure (I):
N = a ribonucleotide, deoxyribonucleotide, phosphorothioate, or modified nucleotide;
(N)F3 and (N)F4 = **oligonucleotide** with a predetermined sequence which **hybridizes** with a target RNA sequence;
F3 = an integer that defines the number of nucleotides in the **oligonucleotide** (provided it is at least 3);
F4 = an integer that defines the number of nucleotides in the **oligonucleotide** (provided it is at least 3-5);
(N)P1 and (N)P4 = an **oligonucleotide** with a predetermined

sequence in which (N)P4 base pairs with 3-6 bases of (N)P1;
P1 = an integer that defines the number of nucleotides in the **oligonucleotide** (provided it is at least 3-6);
(N)S1 = an **oligonucleotide** with a predetermined sequence 3-7 base pairs in which (N)S1 is unpaired;
(N)P2 and (N)P3 = an **oligonucleotide** having a predetermined sequence in which (N)P2 base pairs with at least 3 bases of (N)P3;
asterisk = base pairing between the nucleotides located on either side;
solid lines = chemical linkages providing covalent bonds between the nucleotides located on either side;
dashed lines = either a chemical linkage providing covalent bonds between the nucleotides located on either side, or the absence of chemical linkages; and
(N)L2 = an **oligonucleotide** which may be present or absent (provided that L2 is an integer at least 3 if (N)L2 is present and provided that (N)F4-AAGA-(N)F3-5' does not comprise ACUGAAGAGACAAA).
INDEPENDENT CLAIMS are also included for the following:
(1) an engineered DNA molecule (II) encoding (I);
(2) a vector (III) comprising (II); and
(3) a host cell (IV) transformed with (III).
USE - (I) Is used for cleaving RNA substrates, e.g. RNA from Human Immunodeficiency virus.
DESCRIPTION OF DRAWING(S) - The 'hairpin' model for RNA catalysis.
Dwg.1/70

L17 ANSWER 7 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2001-289515 [30] WPIDS
CROSS REFERENCE: 2003-799819 [75]
DOC. NO. CPI: C2001-088582
TITLE: New hammerhead or **hairpin ribozymes** having 2'-O-methyl substituted nucleotides in the ribozyme's flanking regions, for enhancing the catalytic activity of ribozymes without reducing specificity.
DERWENT CLASS: B04 D16
INVENTOR(S): GOODCHILD, J
PATENT ASSIGNEE(S): (UYMA-N) UNIV MASSACHUSETTS WORCESTER
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6204027	B1	20010320	(200130)*		13

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6204027	B1	Cont of	US 1992-842049	19920226
		Cont of	US 1994-296274	19940825
			US 1997-987032	19971209

PRIORITY APPLN. INFO: US 1992-842049 19920226; US 1994-296274 19940825; US 1997-987032 19971209
AN 2001-289515 [30] WPIDS
CR 2003-799819 [75]
AB US 6204027 B UPAB: 20031120
NOVELTY - Hammerhead or **hairpin ribozymes** comprising

one or more 2'-O-methyl substituted nucleotides in one or both of the ribozyme's flanking regions, are new.

DETAILED DESCRIPTION - A new hammerhead ribozyme has the sequence (I), where the nucleotides forming the 5' CACU 3' (S1) and 5' CUAA 3' (S2) sequences of the ribozyme are 2'-O-methyl nucleotides.

5' GCACACUCUGAUGCCGUUAGGCCGAAACUAAA 3' (I)

INDEPENDENT CLAIMS are also included for the following:

(1) increasing the catalytic activity of a ribozyme having the sequence (II) comprising preparing the ribozyme to have 2'-O-methyl nucleotides in the S1 and S2 sequences of the ribozyme; and

(2) compositions comprising the ribozymes and a facilitator **oligonucleotide**.

5' GCACACUCUGAUGAGGCCGUUAGGCCGAAACUAAA 3' (II)

USE - The modified ribozymes are useful for enhancing the catalytic activity of ribozymes (claimed).

ADVANTAGE - The modified ribozymes are useful for enhancing the catalytic activity of ribozymes without reducing specificity.

Dwg.0/6

L17 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2000:623709 HCAPLUS
DOCUMENT NUMBER: 133:219454
TITLE: Ribozymes targeting the Moloney murine leukemia virus Psi packaging sequence and the human immunodeficiency virus-1 tat sequence
INVENTOR(S): Symonds, Geoffrey P.; Sun, Lun-Quan
PATENT ASSIGNEE(S): Gene Shears Pty., Ltd., Australia
SOURCE: U.S., 44 pp., Cont.-in-part of U.S. 5,712,384.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6114167	A	20000905	US 1994-310259	19940921
US 5712384	A	19980127	US 1994-178082	19940105
CA 2180358	AA	19950713	CA 1995-2180358	19950105
WO 9518854	A1	19950713	WO 1995-IB50	19950105
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9513912	A1	19950801	AU 1995-13912	19950105
AU 698730	B2	19981105		
ZA 9500054	A	19950912	ZA 1995-54	19950105
EP 753062	A1	19970115	EP 1995-905220	19950105
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1145638	A	19970319	CN 1995-191931	19950105
JP 09508004	T2	19970819	JP 1995-518403	19950105
EP 1298208	A2	20030402	EP 2002-25406	19950105
EP 1298208	A3	20040107		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
US 2002058636	A1	20020516	US 1995-375291	19950118
NO 9602826	A	19960827	NO 1996-2826	19960704

PRIORITY APPLN. INFO.: US 1994-178082 A2 19940105
US 1994-310259 A 19940921
EP 1995-905220 A3 19950105
WO 1995-IB50 W 19950105

OTHER SOURCE(S): MARPAT 133:219454

AB The invention provides a synthetic non-naturally occurring **oligonucleotide** compound comprising (1) nucleotides whose sequence defines a conserved catalytic region and (2) nucleotides whose sequence **hybridizes** with a predetd. target sequence within a Moloney murine leukemia virus (MLV) Psi packaging sequence or the HIV-1 tat sequence. Specifically, the (2) nucleotides are capable of **hybridizing** with the 243, 274, 366 or 553 target sequence in MoMLV and site 749 in the HIV Psi packaging site; addnl. targets may be found within the HIV genome, particularly within the tat sequence. The catalytic region may be derived from a hammerhead **ribozyme**, a **hairpin ribozyme** , a hepatitis delta ribozyme, an RNase P ribozyme, or a group I or a group II intron. Further, methods of treatment and methods of use both in vivo and ex vivo are described. Ribozyme constructs transfected into 3T3-Mo-MLV-producing cell lines are able to suppress MoMLV replication. Transfection of ribozyme constructs for the HIV-1 Psi site in T lymphocytes confer protection against HIV challenge.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 9 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-465731 [40] WPIDS
DOC. NO. CPI: C2000-140249
TITLE: Miniribozyme compounds useful for cleaving a target mRNA in a host cell, e.g. for treating AIDS, arthritis, atherosclerosis, restenosis, bacterial and prokaryotic infection.
DERWENT CLASS: B04 C06 D16
INVENTOR(S): CONATY, J F; HENDRY, P; LOCKETT, T J
PATENT ASSIGNEE(S): (CSIR) COMMONWEALTH SCI & IND RES ORG; (CONA-I) CONATY J F; (HEND-I) HENDRY P; (LOCK-I) LOCKETT T J
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000039146	A1	20000706	(200040)*	EN	81
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP US					
AU 2000022706	A	20000731	(200050)		
US 2002155454	A1	20021024	(200273)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000039146	A1	WO 1999-AU1162	19991224
AU 2000022706	A	AU 2000-22706	19991224
US 2002155454	A1 Cont of	WO 1999-AU1162	19991224
		US 2001-887880	20010622

FILING DETAILS:

PATENT NO	KIND	PATENT NO

Search completed by David Schreiber 308-4292

AU 2000022706 A Based on WO 2000039146

PRIORITY APPLN. INFO: AU 1998-7951 19981224
AN 2000-465731 [40] WPIDS
AB WO 200039146 A UPAB: 20000823
NOVELTY - Miniribozyme compounds (Ia) and (Ib), are new.

DETAILED DESCRIPTION - Miniribozyme compounds of formulae (Ia) and (Ib), are new.

X, G10.1, C11.1, C, G, A and U = individually a nucleotide substituted or modified in its sugar, base or phosphate;

(X)n and (X)n' = an **oligonucleotide** with predetermined sequence;

n and n' = an integer which defines the number of nucleotides in the **oligonucleotide**;

X' = ribonucleotide such as C, G, A and U;
a = 0 or 1;

N = nucleotide such as C, G, A and U/T; and

H = C, A and U/T.

with the proviso that the sequence 5'-NNHH-3' is not UUUU, CUCC, AAUU or GGCA. The predetermined sequence of **oligonucleotide** is capable of **hybridizing** with RNA target sequence to be cleaved. If a is 0 then the A located 5' of (X)a is bonded to the G located 3' of (X)a.

INDEPENDENT CLAIMS are also included for the following:

(1) a composition comprising (I) in association with an acceptable carrier;

(2) an **oligonucleotide** transfer vector (II) containing a nucleotide sequence encoding (I); and

(3) a host cell transformed by (II).

ACTIVITY - Antiviral; anti-HIV; antiarthritic; antiarteriosclerotic; anti-inflammatory; antipsoriatic; vasotropic; cytostatic; antibacterial.

MECHANISM OF ACTION - RNA transcription inhibitor. No supporting data is given.

USE - (Ia), (Ib) or **oligonucleotide** transfer vectors (II) containing a nucleotide sequence encoding (I), are useful for cleaving a target mRNA in a host cell (claimed) for treating viral diseases caused by herpes simplex virus or AIDS and other inflammatory diseases such as arthritis and circulatory disorders such as atherosclerosis and restenosis, psoriasis, cervical preneplasia, papilloma disease, bacterial and prokaryotic infection, neoplastic conditions associated with production of aberrant RNAs such as in chronic myeloid leukemia. (Ia) or (Ib) may be combined with pharmaceutically or veterinarally acceptable carriers or may be supplemented in a composition with one or more anti-viral, anti-fungal, anti-bacterial, anti-parasitic, anti-protozoan or anthelminthic agents, herbicides or pesticides.

ADVANTAGE - (Ia) and (Ib) are capable of **hybridizing** with a target RNA to be cleaved and exhibit a very high cleavage rate at a low Mg2+ concentration.

Dwg.0/12

L17 ANSWER 10 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-147613 [13] WPIDS
DOC. NO. CPI: C2000-046317
TITLE: New agents capable of inhibiting presenilin expression useful for treating neurodegenerative diseases especially familial Alzheimer's disease.
DERWENT CLASS: B04 D16
INVENTOR(S): FECHTELER, K; MENDLA, K; SAUER, N
PATENT ASSIGNEE(S): (BOEH) BOEHRINGER INGELHEIM PHARMA KG

Search completed by David Schreiber 308-4292

COUNTRY COUNT: 52
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000003004	A2	20000120	(200013)*	EN	68
RW: AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE					
W: AE AU BG BR CA CN CZ EE HR HU ID IL IN JP KR LT LV MX NO NZ PL RO SG SI SK TR UA US UZ VN YU ZA					
AU 9950339	A	20000201	(200028)		
EP 1095138	A2	20010502	(200125)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
MX 2001000269	A1	20010601	(200235)		
JP 2002520016	W	20020709	(200259)		82

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000003004	A2	WO 1999-EP4804	19990708
AU 9950339	A	AU 1999-50339	19990708
EP 1095138	A2	EP 1999-934633	19990708
		WO 1999-EP4804	19990708
MX 2001000269	A1	MX 2001-269	20010109
JP 2002520016	W	WO 1999-EP4804	19990708
		JP 2000-559226	19990708

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9950339	A	Based on	WO 2000003004
EP 1095138	A2	Based on	WO 2000003004
JP 2002520016	W	Based on	WO 2000003004

PRIORITY APPLN. INFO: US 1999-126200P 19990325; EP 1998-112653 19980709

AN 2000-147613 [13] WPIDS

AB WO 200003004 A UPAB: 20000313

NOVELTY - Substance (I) capable of inhibiting presenilin 2 (PS2) expression in neurodegenerative diseases or (familial) Alzheimers disease, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a ribozyme (II) capable of cleaving PS2-specific mRNA;

(2) a recombinant DNA molecule (III) encoding (II);

(3) a recombinant cDNA molecule (IV) encoding (II);

(4) a recombinant vector (V) comprising (IV);

(5) a host cell comprising (IV);

(6) a pharmaceutical composition comprising (I), (II), (III) or (V) and a carrier; and

(7) preparation of (II), comprising expressing (III), (IV) or (V) in a host cell;

(8) preparation of (II), where (III), (IV) or (V) are synthesized in an automatic synthesizer.

ACTIVITY - Nootropic; neuroprotective; antiparkinsonian.

MECHANISM OF ACTION - Inhibitor of presenilin 2 expression; Apoptosis inhibitor. The effect of ribozyme in inhibiting the overexpression of PS2,

preventihg susceptibility of neurons to apoptotic stimuli and neuronal death was tested by inducing apoptosis in HeLa cells transfected with plasmid (pBSK+/PS2-rzII73.13.3) comprising the ribozyme rz1173/13.3. Staurosporine was added at different concentrations to normal and transfected HeLa cells and the extent of apoptosis was measured by cell death detection enzyme linked immunosorbent assay (ELISA). The results demonstrated marked resistance of PS2 knockdown cells to apoptosis stimulation by 1 pM-1 nM staurosporine, compared to cells expressing normal levels of PS2.

USE - (I), (II), (III) or (V) is useful in medicine compositions, for the treatment of neurodegenerative diseases such as Alzheimer's disease, especially familial Alzheimer's disease (claimed).

ADVANTAGE - The use of ribozymes selectively inhibits translation of PS2 gene, rather than irreversibly damaging or eliminating the target gene. Structurally modified ribozymes have increased resistance to nucleases, increased retention time and high efficiency at target site. By reducing the amount of ribozymes, adverse side effects are reduced. Dwg.0/12

L17 ANSWER 11 OF 24 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 2000:725889 SCISEARCH
THE GENUINE ARTICLE: 355XR
TITLE: Suppression of gene expression by targeted disruption of messenger RNA: Available options and current strategies
AUTHOR: Jen K Y; Gewirtz A M (Reprint)
CORPORATE SOURCE: UNIV PENN, SCH MED, DEPT MED, RM 713 BRB2-3, 421 CURIE BLVD, PHILADELPHIA, PA 19104 (Reprint); UNIV PENN, SCH MED, DEPT MED, PHILADELPHIA, PA 19104; UNIV PENN, SCH MED, CTR CANC, PHILADELPHIA, PA 19104; UNIV PENN, SCH MED, DEPT CELL & MOL BIOL, PHILADELPHIA, PA 19104
COUNTRY OF AUTHOR: USA
SOURCE: STEM CELLS, (SEP 2000) Vol. 18, No. 5, pp. 307-319. Publisher: ALPHAMED PRESS, ONE PRESTIGE PLACE, STE 290, MIAMISBURG, OH 45342-3758. ISSN: 1066-5099.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 119

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB At least three different approaches may be used for gene targeting including: A) gene knockout by homologous recombination; B) employment of synthetic **oligonucleotides** capable of **hybridizing** with DNA or RNA, and C) use of polyamides and other natural DNA-bonding molecules called lexitropsins.

Targeting mRNA is attractive because mRNA is more accessible than the corresponding gene. Three basic strategies hare emerged for this purpose, the most Familiar being to introduce antisense nucleic acids into a cell in the hopes that they will form Watson-Crick base pairs with the targeted gene's mRNA. Duplexed mRNA cannot be translated, and almost certainly initiates processes which lead to its destruction, The antisense nucleic acid can take the form of RNA expressed from a vector which has been transfected into the cell, or take the form of a DNA or RNA **oligonucleotide** which can be introduced into cells through a variety of means. DNA and RNA **oligonucleotides** can be modified for stability as well as engineered to contain inherent cleaving activity.

It has also been hypothesized that because RNA and DNA are very similar chemical compounds, DNA molecules with enzymatic activity could also be developed, This assumption proved correct and led to the development of a

''general-purpose'' RNA-cleaving DNA enzyme, The attraction of DNAzymes over ribozymes is that they are very inexpensive to make and that because they are composed of DNA and not RNA, they are inherently more stable than ribozymes,

Although mRNA targeting is impeccable in theory, many additional considerations must be taken into account in applying these strategies in living cells including mRNA site selection, drug delivery and intracellular localization of the antisense agent. Nevertheless, the ongoing revolution in fell and molecular biology, combined with advances in the emerging disciplines of genomics and informatics, has made the concept of nontoxic, cancer-specific therapies more viable then ever and continues to drive interest in this field.

L17 ANSWER 12 OF 24 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 2000:895212 SCISEARCH
THE GENUINE ARTICLE: 375RP
TITLE: Influence of mRNA self-structure on **hybridization** : Computational tools for antisense sequence selection
AUTHOR: Toschi N (Reprint)
CORPORATE SOURCE: MAX PLANCK INST PSYCHIAT, DEPT BEHAV NEUROENDOCRINOL, KRAEPELINSTR 2-10, D-80804 MUNICH, GERMANY (Reprint)
COUNTRY OF AUTHOR: GERMANY
SOURCE: METHODS-A COMPANION TO METHODS IN ENZYMOLOGY, (NOV 2000) Vol. 22, No. 3, pp. 261-269.
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495.
ISSN: 1046-2023.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 55

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Antisense targeting, an innovative technology based on preventing biosynthesis through sequence-specific **hybridization** of mRNA to synthetic oligodeoxynucleotides (ODNs), is used to selectively and transiently downregulate the expression of any gene product. Its potential applications are both investigative (neurobiology and related disciplines) and therapeutic (oncology, virology, genetic diseases), and several antisense-based drugs are currently undergoing clinical trials. However, the reported efficiencies vary and there Is still a lack of clarity in the underlying mechanisms of action. A critical factor of antisense efficiency is the issue of target site selection, as both mRNA and ODN molecules exhibit a significant amount of highly heterogeneous self-structure and the region selected for targeting may well be sterically or energetically inaccessible. Because of the prohibitively large chain length, mRNA structural information is not accessible by X-ray crystallography or NMR, making a modeling approach indispensable. 1 outline how the latest molecular modeling techniques can be employed to establish the secondary (2D) and tertiary (3D) structures into which a given mRNA folds during and after transcription. The aim should be to integrate 2D prediction results achieved by (a) free-energy minimization, (b) kinetic folding simulations, (c) iterative population breeding by genetic algorithms, and (d) phylogenetic comparison techniques. These results can form the input of a 3D structure prediction paradigm based on constraint-satisfying programming, governed by experimental molecular mechanical constraints, and refined by molecular dynamics simulations. Finally, the automated docking (by simulated annealing) of ODN molecules to the mRNA structure can provide information about the accessibility of target mRNA regions for **hybridization**. To date, the great majority of studies that employ

antisense as a tool select their target sequences more or less randomly. Although the wealth of molecular interactions that take place within a cell makes complete predictability unrealistic, the hind of information that can be extracted from such techniques is of relevance to every application of antisense technology, both investigative and therapeutic. (C) 2000 Academic Press.

L17 ANSWER 13 OF 24 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
ACCESSION NUMBER: 1999-105125 [09] WPIDS
CROSS REFERENCE: 1990-092848 [13]; 1996-141022 [15]; 1996-299901 [30]; 1998-034973 [04]; 1999-119896 [10]; 1999-142016 [12]; 1999-152791 [13]; 2001-556486 [30]
DOC. NO. CPI: C1999-031177
TITLE: New **hairpin ribozyme** compounds - which can be used to regulate the expression of genes by cleaving messenger RNA or can be used to cleave viral RNA.
DERWENT CLASS: B04 C06 D16
INVENTOR(S): HAMPEL, A E; HICKS, M F; TRITZ, R H
PATENT ASSIGNEE(S): (BIOT-N) BIOTECHNOLOGY RES & DEV CORP; (UYNI-N) UNIV NORTHERN ILLINOIS
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5856188	A	19990105	(199909)*		107

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5856188	A	CIP of	US 1988-247100	19880920
		CIP of	US 1989-409666	19890920
		CIP of	US 1990-577658	19900904
		Cont of	US 1991-703427	19910514
		Div ex	US 1993-78774	19930617
			US 1995-485689	19950607

PRIORITY APPLN. INFO: US 1991-703427 19910514; US 1988-247100 19880920; US 1989-409666 19890920; US 1990-577658 19900904; US 1993-78774 19930617; US 1995-485689 19950607

AN 1999-105125 [09] WPIDS
CR 1990-092848 [13]; 1996-141022 [15]; 1996-299901 [30]; 1998-034973 [04]; 1999-119896 [10]; 1999-142016 [12]; 1999-152791 [13]; 2001-556486 [30]
AB US 5856188 A UPAB: 20011031
(A) A compound has an autocatalytic portion of sequence (I). 5'-(N)*F1-CS-(N)*F2-(N)L3-(N)F3-AGAA-(N)F4-(N)P1-(N)S1-(N)P2-(N)L2-(N)*P3-AUAUUAC-(N)*P4-3' (I) N = a ribonucleotide which may be the same or different; (N)F1, (N)F2, (N)F3 and (N)F4 = an **oligonucleotide** (ON) having a predetermined sequence which is capable of **hybridising** with an RNA target sequence to be cleaved; F2 = an integer which defines the number of nucleotides in the ON with the proviso that F3 is at least 3; F1 = an integer which defines the number of nucleotides in the ON with the proviso that F4 is from 3-5; F3 = an integer which defines the number of nucleotides in the ON with the proviso that F3 at least 3; F4 = an integer which defines the number of

nucleotides in the ON with the proviso that F4 = 3-5; each of (N)P1 and (N)P4 = an ON having a predetermined sequence such that (N)P4 base-pairs with 3-6 bases of (N)P1; P1 = an integer which defines the number of nucleotides in the ON with the proviso that P1 = 3-6; (N)S1 = an ON having a predetermined sequence of 3-7 base-pairs such that (N)S1 is unpaired; (N)P2 and (N)P3 = an ON having a predetermined sequence such that (N)P2 base-pairs with at least 3 bases of (N)P3; each * represents base pairing between the nucleotides located on either side; each solid line represents a chemical linkage providing covalent bonds between the nucleotides located on either side; (N)L2 represents an ON with the proviso that L2 represents an integer at least 3; (N)L3 = an ON; provided that (N)F4-AAGA-(N)F3-5' does not comprise ACUGAAGAGACCAAA. Also new are: (1) an engineered DNA molecule coding for a compound as in (A); (2) a vector operatively linked to expression control sequences containing a nucleotide sequence which on transcription gives rise to a compound as in (A); (3) a host cell transformed with a vector as in (2).

USE - The compounds (I) act as RNA catalysts which can be used to cleave a specific sequence in naturally-occurring RNA having a cleavage sequence, as well as RNAs which have been engineered to contain a cleavage sequence. Hosts can be transformed with vectors that, when transcribed, will produce RNA catalysts which can cleave any RNA, native or foreign, found in the host. Hosts can be transformed with vectors that, when transcribed, produce RNA catalysts which can regulate the expression of genes by cleaving messenger RNA or which act as anti-viral agents by cleaving viral RNA. The products have application in vitro and in vivo in prokaryotes and eukaryotes of plant or animal origin in regulating gene expression and for controlling viral infections. The products can also be used in gene mapping.

Dwg.0/43

L17 ANSWER 14 OF 24 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 1999:985797 SCISEARCH
THE GENUINE ARTICLE: 266CB
TITLE: Fluorescence resonance energy transfer in nucleic acid research
AUTHOR: Prokhorenko I A; Korshun V A; Berlin Y A (Reprint)
CORPORATE SOURCE: RUSSIAN ACAD SCI, SHEMYAKIN OVCHINNIKOV INST BIOORGAN CHEM, UL MIKLUKHO MAKLAYA 16-10, GSP-7, MOSCOW 117871, RUSSIA (Reprint); RUSSIAN ACAD SCI, SHEMYAKIN OVCHINNIKOV INST BIOORGAN CHEM, MOSCOW 117871, RUSSIA
COUNTRY OF AUTHOR: RUSSIA
SOURCE: BIOORGANICHESKAYA KHIMIYA, (NOV 1999) Vol. 25, No. 11, pp. 838-847.
Publisher: MEZHDUNARODNAYA KNIGA, 39 DIMITROVA UL., 113095 MOSCOW, RUSSIA.
ISSN: 0132-3423.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: Russian
REFERENCE COUNT: 53

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Recent data are reviewed on the employment of frequence resonance energy transfer (FRET) in studying **hybridization** and higher structures of nucleic acids as well-as their enzyme- and ribozyme-catalyzed reactions.

L17 ANSWER 15 OF 24 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1999:295390 BIOSIS
DOCUMENT NUMBER: PREV199900295390

Search completed by David Schreiber 308-4292

Zara 10/032,794

TITLE: Design of new RNA enzymes and specific cleavage of mRNA.
AUTHOR(S): **Ohtsuka, Eiko** [Reprint author]
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo, 060-0812, Japan
SOURCE: Japanese Journal of Pharmacology, (1999) Vol. 79, No. SUPPL. 1, pp. 4P. print.
Meeting Info.: 72nd Annual Meeting of the Japanese Pharmacological Society. Sapporo, Japan. March 22-25, 1999. Japanese Pharmacological Society.
CODEN: JJPAAZ. ISSN: 0021-5198.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Aug 1999
Last Updated on STN: 5 Aug 1999

L17 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:747594 HCAPLUS
DOCUMENT NUMBER: 130:22238
TITLE: Enzymic ribozyme treatment of diseases or cancers related to expression of c-raf gene
INVENTOR(S): Jarvis, Thale; Matulic-Adamic, Jasenka; Reynolds, Mark; Kisich, Kevin; Bellon, Laurent; Parry, Tom; Beigelman, Leonid; McSwiggen, James A.; Karpeisky, Alexander; Burgin, Alex; Thompson, James; Workman, Christopher T.; Beaudry, Amber; Sweedler, David
PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Inc., USA; et al.
SOURCE: PCT Int. Appl., 259 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 104
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9850530	A2	19981112	WO 1998-US9249	19980505
WO 9850530	A3	19990729		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9851819	A1	19980611	AU 1998-51819	19980112
AU 729657	B2	20010208		
AU 9872905	A1	19981127	AU 1998-72905	19980505
AU 749561	B2	20020627		
EP 980424	A2	20000223	EP 1998-920299	19980505
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001525667	T2	20011211	JP 1998-548448	19980505
EP 1321521	A1	20030625	EP 2003-2270	19980505
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
US 6054576	A	20000425	US 1998-164964	19981001
US 6162909	A	20001219	US 1999-326154	19990604

Search completed by David Schreiber 308-4292

AU 9939188	A1	19990916	AU 1999-39188	19990713
US 6303773	B1	20011016	US 2000-644962	20000823
US 2002028919	A1	20020307	US 2001-960192	20010921
US 6489465	B2	20021203		
US 2002103366	A1	20020801	US 2001-957841	20010921
US 6673918	B2	20040106		
US 2003125291	A1	20030703	US 2002-277263	20021022

PRIORITY APPLN. INFO.:

US 1997-46059P	P	19970509
US 1997-49002P	P	19970609
US 1997-51718P	P	19970703
US 1997-56808P	P	19970822
US 1997-61321P	P	19971002
US 1997-61324P	P	19971002
US 1997-64866P	P	19971105
US 1997-68212P	P	19971219
AU 1995-26422	A3	19950518
US 1996-623891	A	19960325
WO 1998-US9249	W	19980505
US 1998-135964	A1	19980818
US 1998-164964	A1	19981001
EP 1998-920299	A3	19981112
US 1999-326154	A1	19990604
US 2000-644962	A1	20000823
US 2001-960192	A1	20010921

OTHER SOURCE(S): MARPAT 130:22238

AB This invention relates to identification, synthesis and use of nucleic acid catalysts to cleave RNA species that are required for cellular growth responses. In particular, the invention describes the selection and function of ribozymes capable of cleaving RNA encoded by c-raf gene. Such ribozymes may be used to inhibit the proliferation of tumor cells in one or more cancers, restenosis, psoriasis, fibrosis and rheumatoid arthritis.

L17 ANSWER 17 OF 24 MEDLINE on STN DUPLICATE 3

ACCESSION NUMBER: 97392661 MEDLINE
DOCUMENT NUMBER: 97392661 PubMed ID: 9245427
TITLE: A new type of **hairpin ribozyme** consisting of three domains.
AUTHOR: **Komatsu Y**; Kanzaki I; Shirai M; **Ohtsuka E**
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan.
SOURCE: BIOCHEMISTRY, (1997 Aug 12) 36 (32) 9935-40.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199709
ENTRY DATE: Entered STN: 19970922
Last Updated on STN: 19970922
Entered Medline: 19970908

AB We have constructed a new **hairpin ribozyme** with three **stem-loop** domains. In the ribozyme, another domain (domain I') was connected to the 3'-end of domain II of the parent **hairpin ribozyme**, and the new ribozyme can be trimmed after transcription from the DNA template using T7 RNA polymerase. Since a mutant ribozyme containing a substitution at the essential base in domain I' lacked the 3'-trimming reaction, the autoprocessing activity was proved to be derived from the catalytic reaction, similar to the wild-type ribozyme. Furthermore, the structure of the cleavage site from the

self-trimming reaction was identified as a 2',3'-cyclic phosphate, which is the same as that of the wild-type. The processed ribozyme was designed to cleave an external substrate RNA derived from the mRNA of the human inducible nitric oxide synthase and was proved to cleave at the expected, unique site. The **hairpin ribozyme** containing the three-domains exhibited the 3'-self-trimming activity even in a runoff transcription reaction from the plasmid harboring the ribozyme gene with the three domains. The new type of **hairpin ribozyme** thus obtained has three **stem-loop** domains and is able to act as a catalytic RNA for both cis and trans cleavage. These ribozymes are of interest from the point of the structure-function relationship of the **hairpin ribozyme** and provide an important insight into over understanding of the role of the domain-domain interaction in the catalytic activity.

L17 ANSWER 18 OF 24 EMBASE
on STN

ACCESSION NUMBER: 97176353 EMBASE
DOCUMENT NUMBER: 1997176353
TITLE: Characterization and divalent metal-ion dependence of in vitro selected deoxyribozymes which cleave DNA/RNA chimeric **oligonucleotides.**
AUTHOR: Faulhammer D.; Famulok M.
CORPORATE SOURCE: M. Famulok, Institut fur Biochemie-Genzentrum, Feodor-Lynen-Str 25, 81377 Munchen, Germany
SOURCE: Journal of Molecular Biology, (1997) 269/2 (188-202). Refs: 76
ISSN: 0022-2836 CODEN: JMOBAK
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB By in vitro selection, a variety of catalytic DNA **oligonucleotides** were obtained which cleave chimeric **oligonucleotides** at a single ribonucleotide position embedded within a deoxyribonucleotide context in the presence or absence of divalent metal ions. After several cycles of selection/amplification in the absence and in the presence of low amounts of Mg2+ two different types of catalysts emerged: one type depended strongly on Mg2+ or other divalent metal ions, the other type performed cleavage reactions independently of Mg2+ in the presence of spermine. Experimental analysis of the secondary structure of some of the selected deoxyribozymes was carried out by chemical probing. The ribonucleotide in the selected catalysts is unpaired and presents the cleavage site to the attacking nucleophile. Our results suggest that the main selection criterion under metal-free conditions was a favourable arrangement of the attacking nucleophile and the phosphate leaving group. The cleavage rates of the selected divalent metal independent catalysts are within the same order of magnitude as the rate of metal independent substrate hydrolysis in the hammerhead ribozyme. One of the metal dependent catalysts showed an unexpected preference for Ca2+ instead of Mg2+. In this deoxyribozyme binding of Ca2+ ocurred co-operatively whereas binding of Mg2+ did not. Comparison of the secondary structure and reactivity of this catalyst with Mg2+ and Ca2+ suggests that here a special binding pocket for Ca2+ was selected. This deoxyribozyme achieved a rate acceleration of substrate cleavage in the order of at least 104 compared to the uncatalysed reaction performing a cleavage mechanism similar to that of the hammerhead or **hairpin ribozyme.**

L17 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:531825 HCAPLUS
DOCUMENT NUMBER: 125:187563
TITLE: Ribozymes targeting the retroviral packaging sequence, expression constructs, cell containing the expression constructs, and treatment of AIDS
INVENTOR(S): Symonds, Geoffrey P.; Sun, Lun-Quan
PATENT ASSIGNEE(S): Gene Shears Pty. Ltd., Australia
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9622368	A1	19960725	WO 1996-AU22	19960118
W: AU, CA, FI, JP, NO, NZ, RU, SG, US, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 2002058636	A1	20020516	US 1995-375291	19950118
AU 9644275	A1	19960807	AU 1996-44275	19960118
AU 703964	B2	19990401		
EP 799309	A1	19971008	EP 1996-900475	19960118
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
JP 10513345	T2	19981222	JP 1996-521920	19960118

PRIORITY APPLN. INFO.:
US 1995-375291 A 19950118
US 1994-310259 A2 19940921
WO 1995-IB50 W 19950105
WO 1996-AU22 W 19960118

AB This invention is directed to a synthetic non-naturally occurring **oligonucleotide** compound which comprises nucleotides whose sequence defines a conserved catalytic region and nucleotides whose sequence is capable of **hybridizing** with a predetd. target sequence within a packaging sequence of an RNA virus. Preferably, the viral packaging sequence is a retrovirus packaging sequence or the HIV-1 Psi packaging sequence. The RNA virus may be HIV-1, feline leukemia virus, feline immunodeficiency virus, etc. The conserved catalytic region may be derived from a hammerhead **ribozyme**, a **hairpin ribozyme**, a hepatitis delta ribozyme, an RNAase P ribozyme, a group I intron, or a group II intron. The invention is also directed to multiple ribozymes and combinations of ribozymes with antisense nucleic acids and/or TAR decoys or and RRE decoys. Vectors are also described. Further, methods of treatment and methods of use both in vivo and ex vivo are described. Ribozyme constructs targeting the HIV-1 packaging site and transfection of human CD4+ peripheral blood lymphocytes with such constructs were demonstrated. HIV-1 replication in these cells was inhibited.

L17 ANSWER 20 OF 24 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 96312897 MEDLINE
DOCUMENT NUMBER: 96312897 PubMed ID: 8703955
TITLE: Enhanced folding of **hairpin ribozymes** with replaced domains.
AUTHOR: **Komatsu Y**; Kanzaki I; **Ohtsuka E**
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan.
SOURCE: BIOCHEMISTRY, (1996 Jul 30) 35 (30) 9815-20.
Journal code: 0370623. ISSN: 0006-2960.

Search completed by David Schreiber 308-4292

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199609
ENTRY DATE: Entered STN: 19960919
Last Updated on STN: 19960919
Entered Medline: 19960910

AB Reversely joined ribozymes (Komatsu et al., 1995) have been proven to be active. Here we describe the construction of **hairpin ribozymes** with separated domains, but containing complementary arms for association of the two domains. Linker nucleotides were inserted between the arms and domains. These ribozymes were active under the standard conditions (12 mM MgCl2), depending on the length of the linker. When the complementary arms were covalently joined through a stable loop, these ribozymes showed cleavage activities. However, the K(m) value of the **stem-loop** ribozymes was found to be larger than that of the parent ribozyme, which can adopt both linear and bent conformations. Kinetic analyses of these modified **hairpin ribozymes** suggest a higher turnover of the **hairpin ribozyme** as compared to other small ribozymes. The present ribozymes provide insight into the nature of the domain interaction and are suitable for physicochemical studies on the tertiary structure of the **hairpin ribozyme.**

L17 ANSWER 21 OF 24 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 96:309342 SCISEARCH
THE GENUINE ARTICLE: UF157
TITLE: FOLDING OF THE HDV ANTIGENOMIC RIBOZYME PSEUDOKNOT STRUCTURE DEDUCED FROM LONG-RANGE PHOTOCROSSLINKS
AUTHOR: BRAVO C; LESCURE F; LAUGAA P; FOURREY J L; FAVRE A (Reprint)
CORPORATE SOURCE: UNIV PARIS 07, INST JACQUES MONOD, CNRS, LAB PHOTOBIOL MOLEC, 2 PL JUSSIEU, F-75251 PARIS 05, FRANCE (Reprint); UNIV PARIS 07, INST JACQUES MONOD, CNRS, LAB PHOTOBIOL MOLEC, F-75251 PARIS 05, FRANCE; UNIV PARIS 07, MOLEC VIROL LAB, F-75251 PARIS 05, FRANCE; CNRS, INST CHIM SUBST NAT, F-91198 GIF SUR YVETTE, FRANCE
COUNTRY OF AUTHOR: FRANCE
SOURCE: NUCLEIC ACIDS RESEARCH, (01 APR 1996) Vol. 24, No. 7, pp. 1351-1359.
ISSN: 0305-1048.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 36
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A trans-acting system has been designed in order to explore the three-dimensional structure of the antigenomic HDV ribozyme, In this system, the substrate (SANT) is associated by base-pairing to the catalytic RNA (RzANT) forming helix H1. RzANT is able to cleave specifically the RNA substrate as well as a deoxysubstrate analogue containing a single ribocytidine at the cleavage site (position -1), This demonstrates that such deoxysubstrate analogues are valuable tools for structural studies of this ribozyme domain, They form however weak complexes with RzANT which is due in part to their ability to fold as stable hairpins unlike the RNA substrate, Using a set of full deoxy or of mixed deoxy-ribo substrate analogues site-specific substituted with the photoaffinity probe deoxy-4-thiouridine, ds(4)U, at a defined position, we

were able to determine a number of long range contacts between the substrate and the ribozyme core, In particular, crosslinks between substrate position -1 and position -2 with residues C15, G19 and C67, thought to be involved in the ribozyme catalytic site, were detected, A three dimensional model of the antigenomic ribozyme system, derived from the structure proposed by Tanner et al. [Current Biol. (1994) 4, 488-498] for the genomic system was constructed, Apart from residue deletion or insertion, only minor accommodations were needed to account for all photocrosslinks but one which is attributed to an alternative **hybridization** of the substrate with the ribozyme, This study therefore further supports the structure proposed by Tanner ef al, for the pseudoknot model.

L17 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:909574 HCAPLUS
DOCUMENT NUMBER: 123:330000
TITLE: Ribozymes in method for inhibiting the expression of disease-related genes
INVENTOR(S): Stinchcomb, Dan T.; Chowrira, Bharat; Direnzo, Anthony; Draper, Kenneth G.; Dudycz, Lech W.; Grimm, Susan; Karpeisky, Alexander; Kisich, Kevin; Matulic-Adamic, Jasenka; McSwiggen, James A.; Woolf, Tod; Modak, Anil; Pavco, Pamela; Sullivan, Sean M.; Sweedler, David; Tracz, Danuta; Usman, Nassim; Beigelman, Leonid; Thompson, James D,.; Wincott, Francine E.
PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 405 PP.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 104
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9523225	A2	19950831	WO 1995-IB156	19950223
WO 9523225	A3	19960201		
W: AU, CA, JP, KR, MX				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5639647	A	19970617	US 1994-218934	19940329
US 5658780	A	19970819	US 1994-291932	19940815
US 5837542	A	19981117	US 1994-292620	19940817
US 5811300	A	19980922	US 1994-311486	19940923
US 5616488	A	19970401	US 1994-319492	19941007
US 5631359	A	19970520	US 1994-321993	19941011
US 5693532	A	19971202	US 1994-334847	19941104
US 5902880	A	19990511	US 1994-337608	19941110
US 5783425	A	19980721	US 1994-357577	19941216
US 5714383	A	19980203	US 1994-363233	19941223
AU 9518214	A1	19950601	AU 1995-18214	19950223
AU 706417	B2	19980617		
EP 746614	A1	19961211	EP 1995-909920	19950223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09509323	T2	19970922	JP 1995-522236	19950223
US 5686599	A	19971111	US 1995-432876	19950502
US 6469158	B1	20021022	US 1995-433218	19950502
US 5631360	A	19970520	US 1995-435232	19950505
US 5804683	A	19980908	US 1995-435113	19950505

Search completed by David Schreiber 308-4292

US 5985621	A	19991116	US 1996-710113		19960912
US 5837855	A	19981117	US 1996-773297		19961223
US 5977343	A	19991102	US 1997-911869		19970815
US 5831071	A	19981103	US 1997-919568		19970829
AU 9851819	A1	19980611	AU 1998-51819		19980112
AU 729657	B2	20010208			
US 6022962	A	20000208	US 1998-98293		19980616
US 6353098	B1	20020305	US 1998-99083		19980617
AU 9939188	A1	19990916	AU 1999-39188		19990713
US 6437117	B1	20020820	US 1999-363238		19990727
US 6365374	B1	20020402	US 1999-376687		19990818
US 2002197684	A1	20021226	US 2002-104956		20020321
US 2003166917	A1	20030904	US 2002-156432		20020528
US 6649751	B2	20031118			
US 2003088087	A1	20030508	US 2002-231874		20020830
PRIORITY APPLN. INFO.:			US 1994-201109	A	19940223
			US 1994-218934	A	19940329
			US 1994-222795	A	19940404
			US 1994-224483	A	19940407
			US 1994-227958	A	19940415
			US 1994-228041	A	19940415
			US 1994-245736	A	19940518
			US 1994-271280	A	19940706
			US 1994-291932	A	19940815
			US 1994-291433	A	19940816
			US 1994-292620	A	19940817
			US 1994-293520	A	19940819
			US 1994-300000	A	19940902
			US 1994-303039	A	19940908
			US 1994-311486	A	19940923
			US 1994-311749	A	19940923
			US 1994-314397	A	19940928
			US 1994-316771	A	19941003
			US 1994-319492	A	19941007
			US 1994-321993	A	19941011
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			US 1992-882822	A1	19920514
			US 1992-884436	B2	19920514
			US 1992-987132	B2	19921207
			US 1992-989849	B2	19921207
			US 1993-8895	B2	19930119
			US 1993-143832	B2	19931027
			US 1993-167586	B2	19931214
			US 1994-193922	B2	19940207
			US 1994-245466	B2	19940518
			WO 1995-IB156	W	19950223
			US 1995-432876	A1	19950502
			US 1995-433218	A1	19950502
			US 1995-434559	B1	19950502
			AU 1995-26422	A3	19950518
			US 1996-623891	A	19960325
			US 1996-710113	A1	19960912
			US 1996-773297	A1	19961223
			US 1997-911869	A1	19970815

Search completed by David Schreiber 308-4292

US 1997-919568	A1	19970829
US 1999-363238	A1	19990727
US 1999-376687	A1	19990818

AB Enzymic RNA mols. which cleave ICAM-I mRNA, IL-5 mRNA, rel A mRNA, TNF-α mRNA, RSV mRNA or RSV genomic RNA, or CML associated mRNA, and use of these mols. for the treatment of pathol. conditions related to those mRNA-levels; ribonucleosides or nucleotides modified in 2', 3' or 5', methods for their synthesis, purification and deprotection; vectors containing multiple enzymic nucleic acids, optionally in chimeric form with tRNAs; method for introducing enzymic nucleic acids into cells by forming a complex with a second nucleic acid, where the complex is capable of taking an R-loop base-paired structure; method for altering a mutant nucleic acid in vivo by **hybridization** with an **oligonucleotide** capable of activating dsRNA deaminase, comprising an enzymic activity or a chemical mutagen. Further are disclosed trans-cleaving or -ligating **hairpin ribozymes** lacking a substrate RNA moiety, as well as hammerhead ribozymes having an interconnecting loop between base pairs in stem II.

L17 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	1995:842571 HCAPLUS
DOCUMENT NUMBER:	123:250098
TITLE:	Ribozymes targeting the retroviral packaging sequence expression constructs and recombinant retroviruses containing such constructs
INVENTOR(S):	Symonds, Geoffrey P.; Sun, Lun-Quan
PATENT ASSIGNEE(S):	Gene Shears Pty., Ltd., Australia
SOURCE:	PCT Int. Appl., 103 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9518854	A1	19950713	WO 1995-IB50	19950105
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5712384	A	19980127	US 1994-178082	19940105
US 6114167	A	20000905	US 1994-310259	19940921
AU 9513912	A1	19950801	AU 1995-13912	19950105
AU 698730	B2	19981105		
EP 753062	A1	19970115	EP 1995-905220	19950105
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09508004	T2	19970819	JP 1995-518403	19950105
US 2002058636	A1	20020516	US 1995-375291	19950118
NO 9602826	A	19960827	NO 1996-2826	19960704

PRIORITY APPLN. INFO.:	US 1994-178082	A	19940105
	US 1994-310259	A	19940921
	WO 1995-IB50	W	19950105

AB A synthetic non-naturally occurring **oligonucleotide** compound (Markush structure given) which comprises (1) nucleotides whose sequence

defines a conserved catalytic region and (2) nucleotides whose sequence is capable of **hybridizing** with a predetd. target sequence within a packaging sequence of an RNA virus. Preferably, the viral packaging sequence is the HIV-1 Psi packaging sequence. The RNA virus may be HIV-1, Feline Leukemia Virus, Feline Immunodeficiency Virus, etc. The conserved catalytic region may be derived from a hammerhead **ribozyme**, a **hairpin ribozyme**, a hepatitis delta ribozyme, an RNase P ribozyme, a group I intron, or a group II intron. The invention is also directed to multiple ribozymes, combinations of ribozymes, with(out) antisense, and combinations of ribozymes and antisense targeted against the RNA virus and such combinations further including polyTAR, RRE, or TAR decoys. Vectors or ribozymes with(out) antisense and polyTAR, RRE, or TAR decoys are also described. Further, methods of treatment and methods of use both in vivo and ex vivo are described.

L17 ANSWER 24 OF 24 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 96004882 MEDLINE
DOCUMENT NUMBER: 96004882 PubMed ID: 7563051
TITLE: Modification of primary structures of **hairpin ribozymes** for probing active conformations.
AUTHOR: **Komatsu Y**; Kanzaki I; Koizumi M; **Ohtsuka E**
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Hokkaido University Sapporo, Japan.
SOURCE: JOURNAL OF MOLECULAR BIOLOGY, (1995 Sep 22) 252 (3) 296-304.
Journal code: 2985088R. ISSN: 0022-2836.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199510
ENTRY DATE: Entered STN: 19951227
Last Updated on STN: 19970203
Entered Medline: 19951023

AB **Hairpin ribozymes** consist of two **stem-loop** domains, and these domains are assumed to interact with each other to produce the self-cleavage activity. We have studied the relationship of the tertiary structure of the **hairpin ribozyme** and the cleavage activity by dividing and re-joining the domains. A **hairpin ribozyme** (E50) was divided at the hinge region, and the main part was joined to a substrate (S1) using tri- or penta-cytidylates. These ribozymes retained the cleavage activity in the presence of the rest of the molecule, indicating that the active conformation could be maintained if the two domains interacted with each other. Based on the these results, we designed a new type of **hairpin ribozyme** by replacing one of the domains. To maintain the interaction of the domains, oligocytidylates were inserted at a junction. These reversely jointed ribozyme complexes showed cleavage activity that was dependent on the linker lengths. These modifications in the primary structure of the **hairpin ribozyme** confirm the structural requirement for the catalytic reaction and provide information for the correlation of the tertiary structure with the cleavage of the **hairpin ribozyme**.

Search completed by David Schreiber 308-4292

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         425729  CIS
        4787043  ACTIVAT?
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         936021  HYBRIDIZ?
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...completed examining records
      S3      3  RD (unique items)
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File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W2
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File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Jan
         (c) 2004 The HW Wilson Co.
File 135:NewsRx Weekly Reports 1995-2004/Feb W3
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File 144:Pascal 1973-2004/Feb W2
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File 172:EMBASE Alert 2004/Feb W2
         (c) 2004 Elsevier Science B.V.
File 266:FEDRIP 2004/Jan
         Comp & dist by NTIS, Intl Copyright All Rights Res
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         (c) 2004 DECHEMA
File 357:Derwent Biotech Res. _1982-2004/Feb W4
         (c) 2004 Thomson Derwent & ISI
File 358:Current BioTech Abs 1983-2004/Jan
          (c) 2004 DECHEMA
File 369:New Scientist 1994-2004/Feb W3
         (c) 2004 Reed Business Information Ltd.
File 370:Science 1996-1999/Jul W3
         (c) 1999 AAAS
File 399:CA SEARCH(R) 1967-2004/UD=14008
         (c) 2004 American Chemical Society
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  40:Enviroline(R) 1975-2004/Dec
File  50:CAB Abstracts 1972-2004/Jan
         (c) 2004 CAB International
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File 103:Energy SciTec 1974-2004/Feb B1
(c) 2004 Contains copyrighted material
File 156:ToxFile 1965-2004/Feb W3
(c) format only 2004 The Dialog Corporation
File 162:Global Health 1983-2004/Jan
(c) 2004 CAB International
File 305:Analytical Abstracts 1980-2004/Jan W2
(c) 2004 Royal Soc Chemistry
File 35:Dissertation Abs Online 1861-2004/Jan
(c) 2004 ProQuest Info&Learning
File 48:SPORTDiscus 1962-2004/Feb
(c) 2004 Sport Information Resource Centre
File 91:MANTIS(TM) 1880-2003/Feb
2001 (c) Action Potential
File 149:TGG Health&Wellness DB(SM) 1976-2004/Feb W2
(c) 2004 The Gale Group
File 159:Cancerlit 1975-2002/Oct
(c) format only 2002 Dialog Corporation
File 164:Allied & Complementary Medicine 1984-2004/Feb
(c) 2004 BLHCIS
File 444:New England Journal of Med. 1985-2004/Feb W4
(c) 2004 Mass. Med. Soc.
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S2	7	S1 (S) HYBRIDIZ?
S3	3	RD (unique items)

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3/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0011835317 BIOSIS NO.: 199900094977
Dual blockade of cyclic AMP response element- (CRE) and AP-1-directed transcription by CRE-transcription factor decoy oligonucleotide. Gene-specific inhibition of tumor growth
AUTHOR: Park Yun Gyu; Nesterova Maria; Agrawal Sudhir; Cho-Chung Yoon S (Reprint)
AUTHOR ADDRESS: National Institutes Health, NCI, Build. 10, Room 5B05, Bethesda, MD 20892-1750, USA**USA
JOURNAL: Journal of Biological Chemistry 274 (3): p1573-1580 Jan. 15, 1999 1999
MEDIUM: print
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: proteins has important therapeutic potential. Synthetic double-stranded phosphorothioate oligonucleotides with high affinity for a target transcription factor can be introduced into cells as decoy *cis* -elements to bind the factors and alter gene expression. The CRE (cyclic AMP response element)transcription factor complex is a pleiotropic *activator* that participates in the induction of a wide variety of cellular and viral genes. Because the CRE *cis*-element, TGACGTCA, is palindromic, a synthetic single-stranded oligonucleotide composed of the CPE sequence self-*hybridizes* to form a duplex/*hairpin*. Herein we report that the CRE-palindromic oligonucleotide can penetrate into cells, compete with CRE enhancers for binding transcription factors, and specifically interfere with CRE...

3/3,K/2 (Item 1 from file: 71)
DIALOG(R)File 71:ELSEVIER BIOBASE

01101821 1999029464

Dual blockade of cyclic AMP response element- (CRE) and AP-1-directed transcription by CRE-transcription factor decoy oligonucleotide: Gene-specific inhibition of tumor growth

Yun Gyu Park; Nesterova M.; Agrawal S.; Cho-Chung Y.S.
ADDRESS: Y.S. Cho-Chung, National Institutes of Health, NCI, Bldg. 10, Bethesda, MD 20892-1750, United States
EMAIL: chochung@helix.nih.gov

Journal: Journal of Biological Chemistry, 274/3 (1573-1580), 1999, United States
PUBLICATION DATE: January 15, 1999
CODEN: JBCHA
ISSN: 0021-9258
DOCUMENT TYPE: Article
LANGUAGES: English SUMMARY LANGUAGES: English
NO. OF REFERENCES: 33

...proteins has important therapeutic potential. Synthetic double-stranded phosphorothioate oligonucleotides with high affinity for a target transcription factor can be introduced into cells as decoy *cis*-elements to bind the factors and alter gene expression. The CRE (cyclic AMP response element)transcription factor complex is a pleiotropic *activator* that participates in the induction of a wide variety of cellular and viral genes. Because the CRE *cis*-element, TGACGTCA, is palindromic, a synthetic single-stranded oligonucleotide composed of the CRE sequence self-*hybridizes* to form a duplex/*hairpin*. Herein we report that the CRE-palindromic oligonucleotide can penetrate into cells, compete with CRE enhancers for binding transcription factors, and specifically interfere with CRE...

3/3,K/3 (Item 1 from file: 266)

00315804
IDENTIFYING NO.: 1Z01BC10268-03 AGENCY CODE: CRISP

CRE-PALINDROMIC OLIGONUCLEOTIDE AS A TRANSCRIPTION FACTOR DECOY AND AN INHIBITOR

PRINCIPAL INVESTIGATOR: CHO CHUNG, YOON

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SUMMARY: Synthetic double-stranded DNA with high affinity for a target transcription factor can be introduced into target cells as decoy *cis*-elements to bind the factor and alter gene transcription. The CRE (cyclic AMP response element)-transcription factor complex is a pleiotropic *activator* that participates in the induction of a wide variety of cellular and viral genes. Because the CRE *cis* -element TGACGTCA is palindromic, a synthetic single stranded oligonucleotide composed of the CRE sequence, which will self-*hybridize* to form either a duplex or *hairpin* , when introduced into a cell, can act as a decoy for the transcription factor. We have investigated the CRE-palindromic and -*hairpin* forming oligonucleotides as transcription factor decoys and the biological effects thereof. Herein we report that the CRE- palindromic oligonucleotide penetrated into cells, competed with CRE...

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